

ABSTRACT

An auto-tensioner for engine accessories is proposed which can smoothly follow shrinkage and expansion of a belt and which can minimize the amplitude of vibration of the belt.

A seal member 13 is mounted to a cylinder 11 at its top open end. A rod 16 slidably extends through the seal member 13. A return spring 21 biases the rod 16 outwardly. A plunger 24 is slidably received in a sleeve 12 having a bottom and received in the cylinder 11, and is connected to the bottom of the rod 16. The plunger 24 has a passage 27 through which a lower pressure chamber 25 and an upper reservoir chamber 26 communicate with each other. A check valve 28 is provided at the passage 27. A return chamber 29 is defined under the sleeve 12 so as to communicate with the reservoir chamber 26. In the bottom of the sleeve 12, a valve hole 31 is formed through which the return chamber 29 communicates with the pressure chamber 25. A relief valve 32 is provided at the valve hole 31. The relief valve 32 prevents the pressure in the pressure chamber 25 from rising above a set pressure, thereby preventing an excessive increase in the tension of the belt. This makes it possible to reduce oil leak gaps defined between the sliding surfaces of the sleeve 12 and the plunger 24, thereby keeping the vibration amplitude of the belt. This improves the responsiveness of the auto-tensioner to the expansion of the belt while the relief valve 32 is open.